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				Group Art Unit	2877			
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U.S. PATE	NT DOCU	MENTS						
Examiner Initials	Cite No.1		t Document Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear		
<u>K.G.</u>		5,249,195		L.C. Feldman, et al.	09/28/1993			
<u>K.G.</u>		5,363,398		A.M. Glass, et al.	11/08/1994			
KG.		5,527,712	A	T.M. Sheeny	06/18/1996			
KG	<u>'</u>	4,781,458		S.M. Angel, et al.	11/01/1988			
<u> </u>		4,828,758		G.E. Gillberg-LaForce, et al.	05/09/1989			
<u> </u>		4,903,272		B. Simic-Glavaski	02/20/1990			
KG.		4,913,845		G.E. Gillberg-LaForce, et al.	04/03/1990		-	
16		5,234,758		A.W. Olsen, et al.	08/10/1993			
K.G.		5,237,211		K.T. Carron, et al.	07/05/1994	-		
1,19.		5,405,710		A. Dodabalapur, et al.	04/11/1995			
FOREIGN I	PATENT D	OCUMENTS						
Examiner Initials	Cite No.	Foreign Pa	tent Document Kind Ser 4 Code (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear	T 6	
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Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Act of 1995 no persons are required to respond to a collection of information unless it contains a valid OMB control number. Substitute for form 1449A/PTO Complete if known INFORMATION DISCLOSURE Application Number 102661,319 STATEMENT BY APPLICANT Filing Date Septémber 12, 2003 First Named Inventor (use as many sheets as necessary) Armstrong, et al. Group Art Unit 2877 Examiner Name Sheet 2 of 13 15 Attorney Docket Number 37000 CIP2 9906 **U.S. PATENT DOCUMENTS** Examiner Cite U.S. Patent Document Name of Patentee or Date of No.1 Pages, Columns, Lines, Initials Applicant of Cited Kind Code **Publication** Where Relevant Document of Cited Number Passages or Relevant (if known) Document Figures Appear 5,405,906 A.W. Olsen, et al. 04/11/1995 5,469,018 S.M. Jacobsen, et al. 11/21/1995 5,478,658 A. Dodabalapur, et al. 12/26/1995 5,616,986 S.M. Jacobsen, et al. 04/01/1997 5,674,636 A. Dodabalapur, et al. 10/07/1997 5,853,464 I.A. Macpherson, et al. 12/29/1998 LEFT INTENTIONALLY BLANK FOREIGN PATENT DOCUMENTS **Examiner Initials** Cite Foreign Patent Document Name of Patentee of Date of Pages, Columns, Lines No. 1 Kind Applicant of Cited **Publication** Where Relevant Code 5 Number 4 Document of Cited Passages or Relevant Document T Figures Appear (if known)

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Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Act of 1995 no persons are required to respond to a collection of information unless it contains a valid OMB control number. Substitute for form 1449A/PTO COMPLETE IF KNOWN INFORMATION DISCLOSURE Application Number 10/661,319 STATEMENT BY APPLICANT Filing Date September 12, 2003 First Named Inventor (use as many sheets as necessary) Armstrong, et al. Group Art Unit 2877 **Examiner Name** Sheet 3 of 15 Attorney Docket Number 37000 CIP2 9906 U.S. PATENT DOCUMENTS Examiner Cite U.S. Patent Document Name of Patentee or Date of Pages, Columns, Lines, Initials No. Applicant of Cited Kind Code Publication Where Relevant Document Number (if known) of Cited Passages or Relevant Document Figures Appear 5,377,219 A A.R. Geiger 12/27/1994 5,777,776 T. Hiraga, et al. 07/07/1998 5,847,816 A M.S. Zediker, et al (Otaguro) 12/08/1998 5,952,655 R.N. Bhargava 09/14/1999 FOREIGN PATENT DOCUMENTS Examiner Cite Foreign Patent Document Name of Patentee or Date of Pages, Columns, Lines Initials No. Kind Applicant of Cited Publication Where Relevant Number 4 Code 5 Document of Cited Passages or Relevant Document (if known) Figures Appear Ţ 0 527 551 EP A1 Hitachi, Ltd. 17.02.1994

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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^{1.} Unique citation designation number. 2. See attached Kinds of U.S. Patent Documents. 3. Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). 4. For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 6. Applicant is to place a check mark here if English language Translation is

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OTHER PRI	OR ART -	NON PATENT LITERATURE DOCUMENTS	
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T²
K.G.		V. M. Shalaev, Nonlinear Optics of Random Media: Fractal Composites and Metal-Dielectric Films, Springer Tracts in Modern Physics, v.158, Springer, Berlin Heidelberg 2000.	
K.G.		A. K. Sarychev and V. M. Shalaev, "Field Distribution, Anderson localization, and optical phenomena in random metal-dielectric films," Chapter in: Optics of Nanostructured Materials, Eds: V.A. Markel and T.F. George, Wiley, 2001.	
K.G.		V.M. Shalaev, "Surface-Enhanced Optical Phenomena in Nanostructured Fractal Materials," Chapter in: Handbook of Nanostructured Materials and Nanotechnology, Volume 4: Optical Properties, Edited by H. S. Nalwa, Academic Press, 2000	
K.G.		V. M. Shalaev, V. P. Safonov, E.Y. Poliakov, V. A. Markel, and A. K. Sarychev, "Fractal Surface Enhanced Optical Nonlinearities", Chapter 8: Nanostructured Materials: Clusters, Composites, and Thin Films, Eds; V. M. Shalaev and M. Moskovits, ACS Symposium Series v. 679, ACS Books, 1997	
K.G.		Local Field Distribution in Random Metal-Dielectric Films; Theory and Experiment, Dentcho A. Genov, Katyatani Seal, Mark A. Nelson, Andrey K. Sarychev, Z. Charles Ying, Vladimir M. Shalaev, Physica B 338, Pages 228-231 (2003)	
K.G.		Metal coverage dependence of local optical properties of semicontinuous metal films, K. Seal, M. A. Nelson, Z. C. Ying, D. A. Genov, A. K. Sarychev, and V. M. Shalaev, J. of Modern Optics 49, 2423-2435 (2002).	
K.G.		V. A. Podolskiy, A. K. Sarychev, V. M. Shalaev, "Temporal Dynamics of Local Optical Responses and Sub-fs Pulse Generation in Semicontinuous Metal Films," Laser Physics 12, 292 (2002).	
K.G.		M. Breit, V. A. Podolskiy, S. Gresillon, G. von Plessen, J. Feldmann, J. C. Rivoal, P. Gadenne, A. K. Sarychev, and Vladimir M. Shalaev, Experimental observation of percolation-enhanced non-linear light scattering. Phys. Rev. B 64, 125106 (2001).	

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LG,		V. A. Podolskiy, A. K. Sarychev, and Vladimir M. Shalaev, Percolation Composites: Localization of Surface Plasmons and Enhanced Optical Nonlinearities, in Photonic Crystals and Light Localization in the 21st Century, 567, ed. by C. M. Soukoulis (Kluwer Academic Publishers, 2001).	
K.G.		M. Gadenne, V. Podolskiy, P. Gadenne, P. Sheng and V. M. Shalaev, Plasmon-enhanced absorption by optical phonons in metal-dielectric composites, Europhys. Lett. 53, 364 (2001).	
K.G.		V. M. Shalaev and Z. C. Ying, Nonlinear Optics of Surfaces, Encyclopedia of Materials: Science and Technology, ed. by D. Nolte (Pergamon, Amsterdam 2000), article 6.8.13	
K.G		V. A. Shubin, A.K.Sarychev, J. P. Clerc, and V.M.Shalaev, <u>Local Electric And Magnetic Fields In Semicontinuous Metal Films</u> , Phys. Rev. B62, 11230 (2000).	
K.G,		A. K. Sarychev, V. A. Shubin, V. M. Shalaev, Anderson localization of surface plasmons and Kerr nonlinearity in semicontinuous metal Films, Physica B 279, 87 (2000).	
K.G.		A. K. Sarychev, P. C. McPhedran, and V. M. Shalaev, <u>Electrodynamics of metal-dielectric composites and electromagnetic crystals</u> , Phys. Rev. B 62, 8531 (2000).	
K.G.		S. Ducourtieux, S. Gresillon, A. C. Boccara, J. C. Rivoal, X. Quelin, P. Gadenne, V. P. Drachev, W. D. Bragg, V. P. Safonov, V. A. Podolskiy, Z. C. Ying, R. L. Armstrong, and Vladimir M. Shalaev, Percolation and Fractal Composites: Optical Studies, J. of Nonlinear Optical Physics and Materials 9, 105 (2000).	

Examiner Signature Date Considered	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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OTHER PRIC	R ART -	NON PATENT LITERATURE DOCUMENTS	
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K.G.		S. Gresillon, L. Aigouy, A. C. Boccara, J. C. Rivoal, X. Quelin, C. Desmarest, P. Gadenne, V. A. Shubin, A. K. Sarychev, and V. M. Shalaev, Experimental Observation of Localized Optical Excitations in Random Metal-Dieletric Films, Phys. Rev. Lett. 82, 4520 (1999).	
K.G.		W. Kim, V. P. Safonov, V. M. Shalaev, R. L. Armstrong, Fractals in Microcavities: Giant Coupled Multiplicative Enhancement of Optical Responses, Phys. Rev. Lett. 82, 4811 (1999).	
KG		A. K. Sarychev, V. A. Shubin, and Vladimir M. Shalaev, Anderson localization of surface plasmons and nonlinear optics of metal-dielectric composites, Phys. Rev. B 60, 16389 (1999).	
K.G.		V. A. Shubin, W. Kim, V. P. Safonov, A. K. Saruchev, R. L. Armstrong, and Vladimir M. Shalaev, Surface-Plasmon-Enhanced Radiation Effects in Confined Photonic Systems, J. of Lightwave Technology 17, 2183 (1999).	
K.G.		E. Poliakov, V. M. Shalaev, V. Shubin, V. A. Markel, Enhancement of nonlinear processes near rough nanometer-structured surfaces obtained by deposition of fractal colloidal aggregates on a plain substrate, Phys. Rev. B 60, 10739 (1999).	
K.G.		N. N. Lepeshkin, W. Kim, V. P. Safonov, J. G. Zhu, R. L. Armstrong, C. W. White, R. A. Zuhr, and V. M. Shalaev, Optical Nonlinearities of Metal-Dilectric Composites, J. of Nonlinear Optical Physics and Materials 8, 191 (1999)	
K.G.		Vladimir M. Shalaev and Andrey K. Sarychev, Nonlinear optics of random metal-dielectric films, Phys. Rev. B 57, 13265 (1998).	
K.G.		Kneipp K., et al., "Surface-Enhanced Raman Scattering: A New Tool for Biomedical Spectroscopy," Current Science, Vol. 77, No. 7, pp 915-924 (Oct 10 1999)	

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Examiner Signature	La.	re 6011	Date Considered	1/26	
					

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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OTHER P	RIOR	ART -	NON	PATENT LITERATUR	LE DOCUMEN	TS			
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X. G			S. I. Bozhevolnyi, V. A. Markel, V. Coello, W. Kim, and V. M. Shalaev, Direct Observation of Localized Excitations on Rough Nanostructured Surfaces, Phys. Rev. B 58, 11441 (1998).						
			V. M. Shalaev, V. A. Markel, E.Y. Poliakov, R. L. Armstrong, V. P. Safonov, A. K. Sarychev, Nonlinear Optical Phenomena in Nanostructured Fractal Materials, J. Nonlinear Optic. Phys. and Materials, v. 7, 131 (1998).						
			V. N and	A. Shalaev, E. Y. Poliakov, v self-affine thin •Films, Phys	V. A. Markel, R. B ica A 241, 249 (19	otet, Nonlinear optics (97).	of fractal nanomaterials: Small-particle composites		
	_		V. N Fror	1. Shalaev , E. Y. Poliakov, vitiers, Eds: M. M. Novak and	V.A.Markel, R. Bo d T. G. Dewey, Wo	tet, E. B. Stechel, Option orld Scientific, Singapo	al properties of self-affine surfaces, in: Fractal ore, 1997; p. 421.		
	_		V. N Nan	1. Shalaev, E. Y. Poliakov, V. ostructured Fractal Materials	.A.Markel, V. P. Sa s, Fractals, 5 (supp	fonov, A. K. Sarychev, l.), 63 (1997). No cop	Surface-Enhanced Optical Nonlinearities of y available		
			F. B	rouers, S. Blacher, A.N. Lagi continuous firms, Phys. Rev.	arkov, A. K. Saryche B 55, 13234 (199	ev,P. Gadenne, V.M. Si 7).	halaev, Theory of giant Raman scattering from		
			Vlad Affi	limir M. Shalaev, E.Y. Polia ne Thin Films, Physica A 24	kov, V.A. Markel, 1, 249 (1997).	and R. Botet, Nonline	ar Optics of Fractal Nanocompsites and Self-		
	-		Vadim A. Markel, Vladimir M. Shalaev, Evgeni Y. Poliakov, Thomas F. George, Fluctuations of light scattered by fractal clusters, J.Opt.Soc.Amer., 14, 60 (1997).						
	Evgeni Y. Poliakov, Vladimir M. Shalaev, Vadim A. Markel, Robert Botet, Enhanced Raman scattering from self-affine thin films, Opt.Lett., 21, 1628 (1996).								
K.G,			Vlad 8235	imir M. Shalaev, R. Botet, J (1996).	. Mercer, and E.B.	Stechel, Optical prope	erties of self-affine thin films, Phys. Rev. B 54,		
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not is conformance and not considered. Include copy of this form with next communication to applicant.

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Sheet	. 8	of	15	Attorney Docket Number	37000 CIP2 9906

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T²
K.G.		Vladimir M. Shalaev, Mark I. Stockman, and R.Botet, Resonant excitations and nonlinear optics of fractals, Physica A 185, 181 (1992).	
KG.		Vladimir M. Shalaev, R. Botet, and R. Jullien, Erratum: Resonant light scattering by fractal clusters, Phys. Rev. B 45, 7592. (1992).	
K.G.		Vladimir M. Shalaev, R. Botet, and R. Jullien, Resonant light scattering by fractal clusters, Phys. Rev. B44, 12216 (1991).	
K.G.		A.V. Butenko, P.A. Chubakov, Yu.E. Danilova, S.V. Karpov, A.K. Popov, S.G. Rautian, V.P. Safonov, V.V. Slabko, V.M. Shalaev, and M.I. Stockman, Nonlinear optics of metal fractal clusters, Z.Phys.D- Atoms, Molecules, and Clusters 17, 283 (1990).	
K.G.		P. Gadenne, B. Berini, S. Buil, X. Quelin, S. Gresillon, S. Ducourtieux, J. C. Rivoal, A. K. Sarychev, V. M. Shalaev, Localized plasmon-enhanced optical response: harmonic generation and polarization effects, Proceeding of SPIE's 46 Annual Meeting v. 4467, 288 (2001).	
KG.		S. Gresillon, S. Ducourtieux, L. Aigouy, A. C. Boccara, J. C. Rivoal, P. Gadenne, X. Quelin, V. M. Shalaev, V. A. Shubin, Optical excitations of semicontinuous metal films, COLOQ6, 7-9 September, Bordeaux, France.	
KG.		Vladimir M. Shalaev, Nonlinear Optics of Random Nanostructured Materials: Composites, Clusters, and Thin Films, XVI International Conference on Coherent and Nonlinear Optics (Moscow, Russia, June 29-July 3, 1998), ICONO.98 Technical Digest, URSS Publishers, p. 100 (1998).	
K.G.		V. M. Shalaev and A. K. Sarychev, Nonlinear Optics of Random Metal-Dielectric Films, in Nonlinear Optics. 98. Materials, Fundamentals and Applications. Topical Meeting. Kauai, Hawaii, 10-14 August, 1998 IEEE Catalog Number 98CH36244, p. 22 (1998).	
K.G.		V. M. Shalaev, Fractal-surface-enhanced optical nonlinearities, Technical Digest of the Quantum Electronics and Laser Science Conference, QELS.97, Baltimore, May 18-23, 1997, 1997 OSA Technical Digest Series, v. 12, p. 88.	
KG.		E. Poliakov, V. M. Shalaev, Nonlinear Optical Effects in Fractal Nanostructured Materials such as Nanocomposites and Self-Affine Surfaces, Chemistry and Physics of Small-Scale structures, Technical Digest Series, v. 2, Santa Fe, February 9-11, 1997; p. 49	

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EXAMINER: Initial if reference considered, whether of not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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K.G.		R. L. Armstrong, V. P. Safonov, N. N. Lepeshkin, W. Kim, and V. M. Shalaev, Giant optical nonlinearities of fractal colloid aggregates, SPIE, San Diego, p. 107, 1997	
·		Vladimir M. Shalaev, Giant Optical Nonlinearities in Fractal Nanostructured Composites, Technical Digest, XX International Quantum Electronics Conference, Sydney (1996).	
		Vladimir M. Shalaev, J. Mercer, V.P. Safonov, and R. Botet, Nonlinear Optics of Fractal Nanocomposites and Self-Alline Surfaces, Technical Digest of Summer Topical Meeting, Nonlinear Optics: Materials, Fundamentals, and Applications, Maui, Hawaii, (1996).	
		V.A. Markel, E.B. Stechel, W. Kim, R. Armstrong, and Vladimir Shalaev, Optical Properties of fractal nanocomposites, Mat.Res.Soc Symp.Proc. vol.367, 417 (1995).	
		Vladimir Shalaev, R. Botet, M. Moskovits, Subwavelength localization of optical modes in fractals, In: Molecular Designed UltraPne Nanostructured Materials, Mat.Res.Soc Symp.Proc. vol.351, 449 (1994).	
		A.V. Butenko, V.A. Markel, L.S. Muratov, V.M. Shalaev, and M.I. Stockman, Theory and Numerical Simulations of Optical Properties and Selective PhotomodiPication of Fractal Clusters, Proc. X International Vavilov Conference on Nonlinear Optics; in: Nonlinear Optics, edited by S.G. Rautian, Nova Science Publishers, 275 (1992).	
	_	Yu.E. Danilova, S.V. Karpov, A.K. Popov, S.G. Rautian, V.P. Safonov, V.V. Slabko, V.M. Shalaev, and M.I. Stockman, Experimental Investigation of Optical Nonlinearities of Silver Fractal Clusters, Proc. X International Vavilov Conference on Nonlinear Optics; in: Nonlinear Optics, edited by S.G. Rautian, Nova Science Publishers, 295 (1992).	
		A.V. Butenko, P.A. Chubakov, Yu.E. Danilova, S.V. Karpov, A.K. Popov, S.G. Rautian, V.P. Safonov, V.V. Slabko, V.M. Shalaev, M.I. Stockman, Nonlinear Optics of Metal Fractal Clusters, in: Proc. International School on Lasers and Applications, Sayanogorsk, Eastern Siberia, USSR; Published by Institute for Physics, USSR Academy of Sci., Krasnoyarsk, 78 (1991).	
K.G.		V.M. Shalaev, M.I. Stockman, Optical properties of fractal clusters, Proc. 3-rd Int. Conf. Trends in Quantum Electronics., Romania, 201 (1988).	
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K.G.		BISWAS, A., et al., "Time-Resolved Spectroscopy of Laser Emission from Dye-doped Droplets," Optics Letters, Vol. 14, No. 4, pp 214-216 (February 15, 1989)	
		BOYD, R.W., et al., "Nonlinear Optical Properties of Nanocomposite Materials," <i>Pure Appl. Opt.</i> , Vol. 5, pp 505-512 (1996)	
		CHANG, R.K., et al., TEXTBOOK: "Optical Processes in Microcavities," World Scientific, Singapore-New Jersey-London-Hong Kong (1996) Table of Contents for reference	
		CHANG. R.K., et al. TEXTBOOK: "Surface Enhanced Raman Scattering," <i>Plenum Press</i> , New York - London (1982) Table of Contents for reference	
		CHINN, S.R., "Analysis of Counter-Pumped Small-Signal Fiber Raman Amplifiers," <i>Electronics Letters</i> , vol. 33, No. 7, pp 607-608 (March 27, 1997)	
		KERKER, M., et al., "Surface Enhanced Raman Scattering (SERS) of Citrate Ion Adsorbed on a Colloidal Silver," <i>Applied Optics</i> , Vol. 19, No. 19, pp 3253-3255 (October 1, 1980)	
		KNEIPP, K., et al., "Single Molecule Detection Using Surface-Enhanced Raman Scattering (SERS)", <i>Physical Review Letters</i> , Vol. 78, No. 9, pp 1667-1970, (March 3, 1997)	
		LEE, P.C., et al., "Adsorption and Surface-Enhanced Raman of Dyes on Silver and Gold Sols," J. Phys. Chem., vol. 86, pp 3391-3395 (1982)	+
		LIN,H.B., et al., "cw Nonlinear Optics in Droplet Microcavities Displaying Enhanced Gain," Phys. Rev. Letters, vol. 73, No. 18, pp 2440-2443 (October 31, 1994	+
K.G.		MARKEL, V.A., et al., "Small-Particle Composites. I. Linear Optical Properties," <i>Phys. Review B</i> , Vol. 53, No. 5, pp 2425-2436 (February 1, 1996)	1

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K.G.		MARKEL, V.A., "Theory and Numerical Simulation of Optical Properties of Fractal Clusters," Phys. Rev. B, Vol. 43, No. 10, pp 8183-8195 (April 1, 1991)	
		MOSKOVITS, M., "Surface-Enhanced Spectroscopy," Rev. Mod. Phys., Vol. 57, No. 3, Part I, pp 783-826 (July 1985)	
		NIE, S., et al., "Probing Single Molecules and single Nanoparticles by Surface-Enhanced Raman Scattering," Science, Vol. 275, pp 1102-1106 (February 21, 1997)	
		OWEN, J.F., et al., "Enhancement of Fluorescense Induced by Microstructure Resonances of a Dielectric Fiber," <i>Phys. Rev. Letters</i> , Vol. 47, No. 15, pp 1975-1078 (October 12, 1981)	
		PRASLER, M.A., et al., TEXTBOOK: "Near-Field Optics: Theory, Instrumentation, and Applications," Wiley-Interscience Publication, John Wiley & Sons, Inc., New York (1996) Table of Contents for reference	
		RAUTIAN, S.G., et al., "Surface-Enhanced Parametric Scattering of Light by Silver clusters," <i>JETP Lett.</i> , Vol. 47, No. 4, pp 243-246 (February 25, 1988)	
		RITCHIE, G., et al., "Luminescence of Dye Molecules Adsorbed at a Ag Surface," Phys. Rrev. B, Vol. 24, No. 8, pp 4843-4846 (October 15, 1981)	
		SAFONOV, V.P., et al., "spectral Dependence of Selective Photomodification in Fractal Aggregates of Colloidal Particles, <i>Phys. Rev. Lett.</i> , Vol. 80, No. 5, pp 1102-1105 (February 2, 1998)	
		SHALAEV, V.M., et al., "Optical Properties of Fractal Clusters (susceptibility, Surfae Enhanced Raman Scattering by Impurities," Sov. Phys. JETP, Vol. 65, No. 2, pp 287-294 (February 1987)	
K.G.		SHALAEV, V.M., et al., "Electromagnetic Properties of Small-Particle Composites," Phys. Reports, vol. 272, pp 61-137 (1996)	

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Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE persons are required to respond to a collection of information unless it contains a valid OMB control number. Under the Paperwork Reduction Act of 1995, no Substitute for form 1449B/PTO COMPLETE IF KNOWN **Application Number** 10/661,319 INFORMATION DISCLOSURE STATEMENT BY APPLICANT Filing Date September 12, 2003 First Named Inventor Armstrong, et al. (use as many sheets as necessary) Group Art Unit 2877 Examiner Name 12 15 Sheet of Attorney Docket Number 37000 CIP2 9906

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K.G.		SHALAEV, V.M., "Nonlinear Optical Phenomena in Nanostructured Fractal Materials," J. Nonlinear Op. Phys. & Mat., vol. 7, No. 1, pp 131-152 (1998)	
		SHALAEV., V.M., et al., "Small Particle Composites. II Nonlinear Optical Properties," Phys. Rev. B, Vol. 53, No. 5, pp 2437-2449 (February 1, 1996)	
		SILMAN, O., et al., "Surface-Enhanced Raman Scattering by Citrate on Colloidal Silver," J. Phys. Chem., vol. 87, pp 1014-1023 (1983)	
		STOCKMAN. M.I., "chaos and spatial Correlations for Dipolar Eigenproblems," <i>Phys. Rev. Lett.</i> , Vol. 79, No. 23, pp 4562-4565 (December 8, 1997)	
		TZENG, H.M., et al., "Laser emission from Individual Droplets at Wavelengths Corresponding to Morphology-Dependent Resonances," Optics Lett., Vol. 9, No. 11, pp 499-501 (November 1984)	
		YARIV, A., TEXTBOOK: "Quantum Electronics", Third Edition, John Wiley & Sons, New York, pp 466467 and Table of Contents for reference (
K.G.		Xu, X-H, et al., "Direct Measurement of single-Molecule Diffusion and Photodecomposition in Free Solution," Science,, Vol. 275, pp 1106-1109 (February 21, 1997)	
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K.G.		BURSTEIN, E., et al., Editors, CONFINED ELECTRONS AND PHOTONS, Textbook published by Plenum Press (NY and London), from Proceedings of a NATO Advanced Study Institute on Confined Electrons and Photons: New Physics and Applications, held July 13-26, 1993, Erice, Italy (1995 Plenum Press New York)					ined
		ARMSTRONG, R.L., "Nonlinear Optical Effects in Microcylinders and Microdroplets," TEXTBOOK, r.k. Chang and A.J. Campillo (eds); Optical Processes in Microcavities (1996) World Scientific, Singapore pp 257-283					ζ,
		SHIBATA, S., et al., "Preparation of Silica Microspheres Containing AG Nanoparticles," J of Sol-Gel Sci and Tech, Kluwer Academic Publ, Dordrecht, NL Vol 11, No. 3 pp 279-287 (8/1/1998)					
		WANG, H.Z., et al., "Low-Threshold Lasing of A. Rhodamine Dye Solution Embedded with Nanoparticles Fractal Agreegates," <i>Optics Letters</i> , Optical Society of America, Washington US, Vol. 23, No. 10, pp 777-779 (15 May 1998)					23,
		KUROKAWA Y., et al., "Surface-Enhanced Raman Spectroscopic Detection of Carbonate, Sulfite, and Nucleic Acid Bases Using Polyvinyl Alcohol Film Doped with Silver Fine Particles," <i>Analytical Biochemisty</i> , Vol. 209, No. 2, pp 247-250 (1993)					nd
		KIM, W., et al., "Fractals in Microcavities: Giant Coupled, Multiplicative Enhancement of Optical Responses," <i>Phys. Review Letters</i> , 14 June 1999, PAS, USA, Vol. 82, No. 24, pp 4811-4814					
		SHUBIN, V	V.A., et al., "Surface-P ve Technology, IEEE, 1	lasmon-Enhance New York US, V	ed Radiation Effe Vol. 17, No. 11 (j	ectts in Confined Photonic Systems,' pp 2183-2190 (11/1999)	١, ٦
		RAHM, S., 1993	"Performance of an O	ptical Detector	Preamplifier," <i>Op</i>	ptics Letters, Vol. 18, No. 18, Sep 1	5
K.G.		PURCELL, No. 11-12	E.M., "Spontaneous Foage 681 and whole do	Emission Probab cument (June 1-	oilities at Radio F -5, 1946)	requencies," Physical Review, Vol.	69,
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		ARNOLD, S., et al., "Room-Temperature Microparticle-Based Persistent Spectral Hole Burnin Memory," Optics Letters, Vol. 16, No. 6 pp 420-422 (March 16, 1991)				
		EMORY, S.R., et al., "Near-Field Surface-Enhanced Raman Spectroscopy on Single Silver Nanoparticles," Anal. Chem., Vol. 69, pp 2631-2635 (1997)				
		OKAMOTO, S., et al., "Persistent Spectral Hole-Burning in CuCl Nanocrystals: Demonstration of Optical Data Storage," <i>Japanese J. Appl. Phys.</i> , Vol. 34, pp 128-130, Suppl 34-1 (1995)				
		SHARP, S.L., et al., "spectroscopy and Imaging Using the Photon Scanning-Tunneling Microscope," Acc. Chem. Res., Vol. 26, p 377-382 (1993)				
		TSAI, D.P., et al., "Photon Scanning Tunneling Microscopy Images of Optical Excitations of Fractal Metal Colloid Clusters," <i>Phys. Rev. Letters</i> , Vol. 72, No. 26, pp 4149-4152 (June 27, 1994)				
		VO-DINH, T., et al., "Surface-Enhanced Raman Optical Data Storage: A New Optical Memory with Three-Dimensional Data Storage," Rev. of Sci Instr., Vol. 65, No. 12, pp 3766-3770) Dec 1994)				
		VO-DINH, T., "Surface-Enhanced Raman Spectroscopy Using Metallic Nanostructures," <i>Trends in Analytical Chemistry</i> , Vol. 17, Nos. 8+9, pp 557-582 (1998)				
.		ZEISEL, D., et al., "Near-Field Surface-Enhanced Raman Spectroscopy of Dye Molecules Adsorbed on Silver Island Films," <i>Chem. Phys. Letters</i> , Vol. 283, pp 381-385 (Feb 13, 1998)				

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	US PATENT DOCUMENTS							
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K.G.	US-6538794B1	03/25/2003	D'Aguanno, Guiseppe , et al.					
19	US-6597492B1	07/22/2003	Rosenman, Gil, et al.					
KG.	US-6,791,736	09/14/2004	Jain, Ajaykumar R.					
K.G.	US-6,795,198	09/21/2004	Fuchs, Martin, et al.					

FOREIGN PATENT DOCUMENTS							
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